

DIRECT CONVERSION RECEIVER CALIBRATED FOR PHASE AND GAIN MISMATCH

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ABSTRACT OF THE DISCLOSURE

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A direct conversion receiver (DCR) calibrated for phase and gain mismatch is provided. The DCR comprises a poly-phase filter that generates mismatched in-phase and quadrature-phase differential signals; the in-phase differential signal is mixed with first and second local oscillation signals; the quadrature-phase differential signal is mixed with third and fourth local oscillation signals; the first and second local oscillation signals have a first adjustable phase mismatch, and the third and fourth oscillation signals have a second adjustable phase mismatch; A mismatch estimation unit (MEU) estimates the entire phase/gain mismatch (signal distortion) of the DCR ,The first and second adjustable phase mismatches are adjusted so that the signal distortion of the DCR, as estimated by the MEU is minimized. Thereafter, reduced-component DCRs (without an MEU), calibrated for the mismatches of a poly-phase filter, may be mass produced.